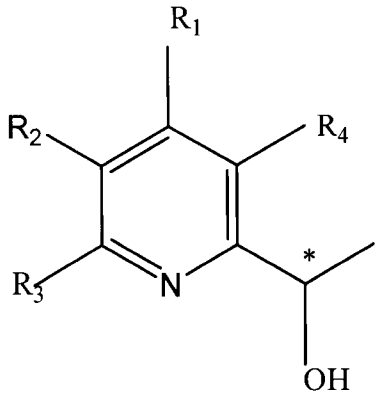
AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions and listings of the claims in this application.

LISTING OF THE CLAIMS:

1. (Withdrawn) A method of producing an optically active pyridineethanol derivative represented by the general formula

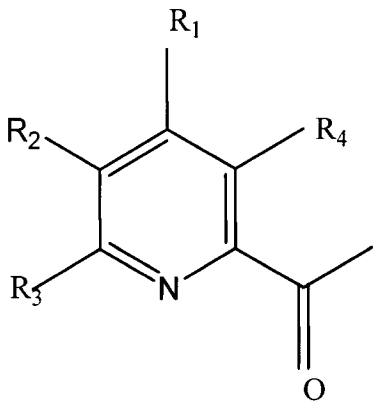


[2]

wherein R_1 and R_2 are bound to each other to form a 5- to 8-membered monocyclic heterocycle containing at least one hetero atom selected from the group consisting of oxygen, sulfur and nitrogen atoms, which heterocycle may optionally have a substituent(s), or a polycyclic heterocycle resulting from the condensation of such monocyclic heterocycle with another ring, which polycyclic heterocycle may optionally have a substituent(s),

R_3 and R_4 are the same or different and each represents a hydrogen atom, a halogen atom, a hydroxyl group, an alkyl group containing 1 to 12 carbon atoms, which may optionally have a substituent(s), or an alkoxy group containing 1 to 12 carbon atoms, which may optionally have a substituent(s), and * indicates that the asterisked carbon atom is an asymmetric one,

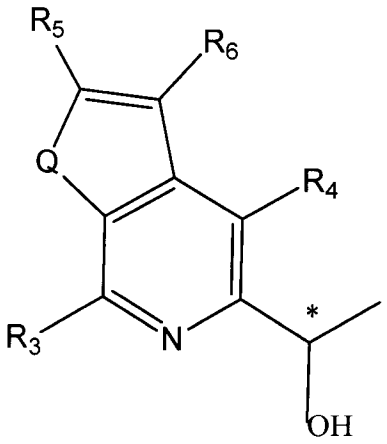
which method comprises stereoselectively reducing an acetylpyridine derivative represented by the general formula [1]:



[1]

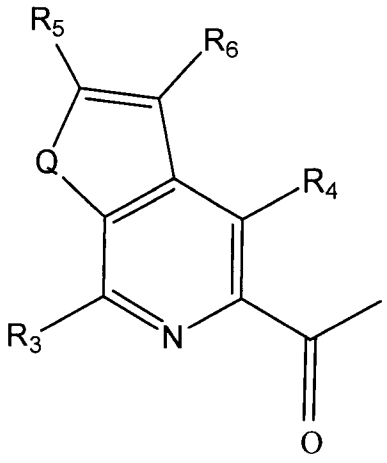
wherein R_1, R_2, R_3 and R_4 are as defined above, by causing an isolated enzyme or isolated enzyme source capable of asymmetrically reducing the same to act thereon.

2. (Withdrawn) A method of producing an optically active pyridineethanol derivative represented by the general formula [4]:



[4]

wherein Q represents an oxygen or sulfur atom or a group of the general formula -N(D)-, in which N is a nitrogen atom and D represents a hydrogen atom or a monovalent protective group, R_3, R_4, R_5 and R_6 are the same or different and each represents a hydrogen atom, a halogen atom, a hydroxyl group, an alkyl group containing 1 to 12 carbon atoms, which may optionally have a substituent(s), or an alkoxy group containing 1 to 12 carbon atoms, which may optionally have a substituent(s), and * indicates that the asterisked carbon atom is an asymmetric one, which method comprises stereoselectively reducing an acetylpyridine derivative represented by the general formula [3]:



[3]

wherein Q, R_3, R_4, R_5 and R_6 are as defined above, by causing an isolated enzyme or isolated enzyme source capable of asymmetrically reducing the same to act thereon.

3. (Withdrawn) The production method according to Claim 2, wherein Q is an oxygen atom.

4. (Withdrawn) The production method according to Claim 2, wherein Q is an oxygen atom,

R_3 is a hydrogen atom or a chlorine atom,

R_4 is a hydrogen atom,

R_5 is a hydrogen atom

and R_6 is a hydrogen atom or a methyl group.

5. (Withdrawn) The production method according to Claim 2, wherein Q is an oxygen atom and R_3, R_4, R_5 and R_6 each is a hydrogen atom.

6. (Withdrawn) The production method according to Claim 1, wherein the reaction is carried out in the presence of an isolated enzyme capable of reducing the oxidized form nicotinamide adenine dinucleotide and/or the oxidized form nicotinamide adenine dinucleotide phosphate to the respective reduced forms as well as a substrate for the reduction.

7. (Withdrawn) The production method according to Claim 6, wherein said isolated enzyme for reduction to the reduced form is glucose dehydrogenase and said substrate for reduction is glucose.

8. (Withdrawn) The production method according to Claim 6, wherein said isolated enzyme for reduction to the reduced form is formate dehydrogenase and said substrate for reduction is formic acid.

9. (Withdrawn) The production method according to Claim 1, wherein said isolated enzyme or isolated enzyme source is derived from a microorganism selected from the group consisting of microorganisms of the genera *Ashbya, Candida, Cryptococcus, Clavispora, Debaryomyces, Dipodascus, Galactomyces, Geotrichum, Guilliermondella, Hanseniaspora, Hansenula, Hyphopichia, Issatchenkia, Kluyveromyces, Kuraishia, Lodderomyces, Metschnikowia, Ogataea, Pachysolen, Pichia, Rhodosporidium, Rhodotorula, Saccharomycopsis, Schwanniomyces, Sporidiobolus, Sporobolomyces, Schizoblastosporion, Stephanoascus, Torulaspora, Trigonopsis, Trichosporon, Willopsis, Yamadazyma, Zygosaccharomyces, Alcaligenes, Bacillus, Brevibacterium, Cellulomonas, Corynebacterium, Jensenia, Ochrobactrum, Pseudomonas, Rhodococcus* and *Tsukamurella.*

10. (Withdrawn) The production method according to Claim 9, wherein the product optically active pyridineethanol derivative has the S absolute configuration

and said isolated enzyme or isolated enzyme source is derived from a microorganism selected from the group consisting of microorganisms of the genera *Ashbya, Candida, Cryptococcus, Clavispora, Debaryomyces, Dipodascus, Galactomyces, Geotrichum, Guilliermondella, Hanseniaspora, Hansenula, Hyphopichia, Issatchenkia, Kluyveromyces,*

Kuraishia, Lodderomyces, Metschnikowia, Ogataea, Pachysolen, Pichia, Rhodosporidium, Rhodotorula, Saccharomycopsis, Schwanniomyces, Sporidiobolus, Sporobolomyces, Schizoblastosporion, Stephanoascus, Torulaspora, Trigonopsis, Trichosporon, Willopsis, Yamadazyma, Zygosaccharomyces, Alcaligenes, Bacillus, Brevibacterium, Cellulomonas, Corynebacterium, Jensenia, Ochrobactrum, Pseudomonas, Rhodococcus and *Tsukamurella.*

11. (Withdrawn) The production method according to Claim 9, wherein the product optically active pyridineethanol derivative has the R absolute configuration

and said isolated enzyme or isolated enzyme source is derived from a microorganism selected from the group consisting of microorganisms of the genera *Candida, Ogataea, Pichia, Yamadazyma, Brevibacterium,* and *Corynebacterium.*

12. (Canceled)

13. (Canceled)

14. (Previously presented) An isolated enzyme specified below under (a) or (b):
(a) An isolated enzyme comprising the amino acid sequence of SEQ ID NO:1 in the sequence listing; or
(b) An isolated enzyme comprising an amino acid sequence obtained from the amino acid sequence shown under SEQ ID NO:1 in the sequence listing by deletion, substitution and/or addition of one amino acid and having an activity by which 5-acetylfuro[2,3-c]pyridine is stereoselectively reduced to 5-(1-(R)-hydroxyethyl)furo[2,3-c]pyridine.

15. (Canceled)

16. (Canceled)

17. (Canceled)

18. (Withdrawn) The production method according to Claim 1, wherein said isolated enzyme is defined according to Claim 12

and the product optically active pyridineethanol derivative has the R absolute configuration.

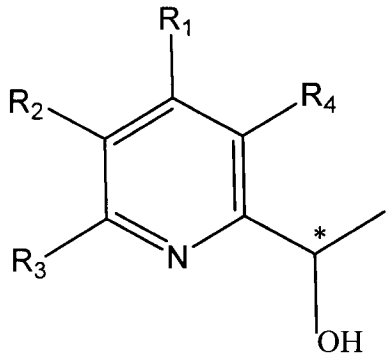
Claims 19-32 cancelled.

33. (Withdrawn) The production method according to Claim 1, wherein said isolated enzyme is the transformant having the recombinant vector containing a DNA coding for an isolated enzyme specified below under (a) or (b):

(a) An isolated enzyme comprising an amino acid sequence shown under SEQ ID NO:1 in the sequence listing;

(b) An isolated enzyme comprising an amino acid sequence derived from the amino acid sequence shown under SEQ ID NO:1 in the sequence listing by deletion, substitution and/or addition of one or several amino acids and having an activity by which 5-acetylfuro[2,3-c]pyridine is stereoselectively reduced to 5-(1-(R)-hydroxyethyl)furo[2,3-c]pyridine, and said product optically active pyridineethanol derivative has the R absolute configuration.

34. (Withdrawn) A method of producing an optically active pyridineethanol derivative having the S absolute configuration and represented by the general formula [6]:

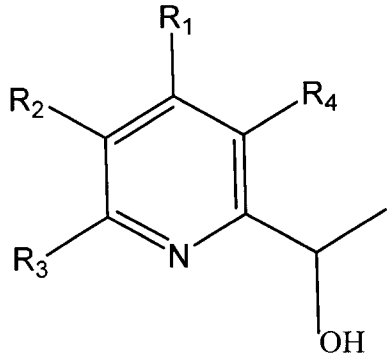


[6]

wherein R_1 and R_2 are bound to each other to form a 5- to 8-membered monocyclic heterocycle containing at least one hetero atom selected from the group consisting of oxygen, sulfur and nitrogen atoms, which heterocycle may optionally have a substituent(s), or a polycyclic heterocycle resulting from the condensation of such monocyclic heterocycle with another ring, which polycyclic heterocycle may optionally have a substituent(s),

and R_3 and R_4 are the same or different and each represents a hydrogen atom, a halogen atom, a hydroxyl group, an alkyl group containing 1 to 12 carbon atoms, which may optionally have a substituent(s), or an alkoxy group containing 1 to 12 carbon atoms, which may optionally have a substituent(s), and * indicates that the asterisked carbon atom is an asymmetric one,

which method comprises causing the isolated enzyme according to any of Claims 12 to 17 and/or the transformant according to any of Claims 26 to 32 to act on a pyridineethanol derivative represented by the general formula [5]:

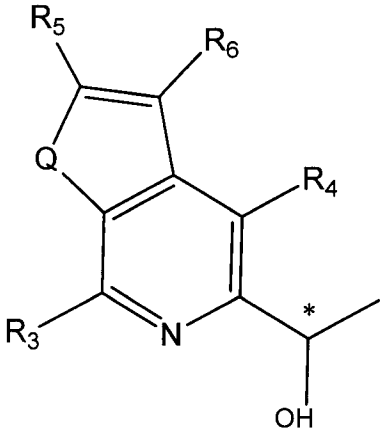


[5]

wherein R_1, R_2, R_3 and R_4 are as defined above, to thereby preferentially oxidize the R form of the pyridineethanol derivative

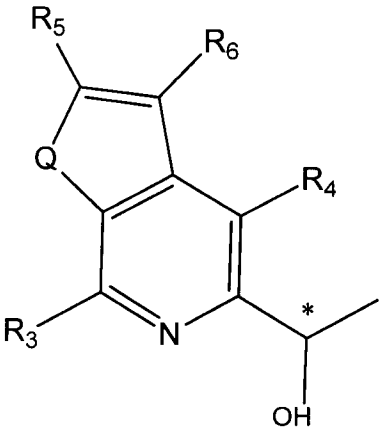
and recovering the remaining S form of the pyridineethanol derivative.

35. (Withdrawn) A method of producing an optically active pyridineethanol derivative having the S absolute configuration and represented by the general formula [8]:



[8]

wherein Q represents an oxygen or sulfur atom or a group of the general formula -N(D)-, in which N is a nitrogen atom and D represents a hydrogen atom or a monovalent protective group, R_3, R_4, R_5 and R_6 are the same or different and each represents a hydrogen atom, a halogen atom, a hydroxyl group, an alkyl group containing 1 to 12 carbon atoms, which may optionally have a substituent(s), or an alkoxy group containing 1 to 12 carbon atoms, which may optionally have a substituent(s), and * indicates that the asterisked carbon atom is an asymmetric one,
which method comprises causing the isolated enzyme according to any of Claims 12 to 17 and/or the transformant according to any of Claims 26 to 32 to act on a pyridineethanol derivative represented by the general formula [7]:



[7]

wherein Q, R_3, R_4, R_5 and R_6 are as defined above, to thereby preferentially oxidize the R form of

the pyridineethanol derivative

and recovering the remaining S form of the pyridineethanol derivative.

36. (Withdrawn) The production method according to Claim 35, wherein Q is an oxygen atom.

37. (Withdrawn) The production method according to Claim 35, wherein Q is an oxygen atom,

R_3 is a hydrogen atom or a chlorine atom,

R_4 is a hydrogen atom,

R_5 is a hydrogen atom

and R_6 is a hydrogen atom.